2007 RESEARCH PROBLEM STATEMENT

Problem Title: THE SYNTHESIS OF DESIGN GUIDELINES FOR CORROSION RESISTANT REINFORCED CONCRETE **No.:**

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Project Champion: DAVID EIXENBERGER, RICHARD MILLER

(UDOT or FHWA employee who needs this research done, will help the Research Division lead this project, and will spearhead the implementation of the results. If the project gets prioritized at the UTRAC conference, a Champion Commitment Form will be required before funding.)

1. Briefly describe the problem to be addressed.

THERE ARE MANY DIFFERENT SUGGESTED APPROACES FOR THE DESIGN AND CONSTRUCTION OF CORROSION RESISTANT CONCRETE STRUCTURES. THIS PROJECT WILL GENERATE A DESIGN GUIDELINE FOR UDOT THAT IS BASED UPON A SYNTHESIS OF THE STATE OF THE ART PRACTICES, AND THE CONSIDERATION OF LIFE CYCLE COSTS.

2. Strategic Goal: ☒ Preservation ☐ Operation ☐ Capacity ☒ Safety (check all that apply)

3A. List the research objective(s) to be accomplished:

1. DEFINE THE STATE OF THE ART W.R.T. CORROSION RESISTANT DESIGN
2. CONSIDER THE USE OF TRADITIONAL AND NEW MATERIALS (CEMENT, STEEL, FRP)
3. IDENTIFY ALTERNATIVE DESIGNS AND CONSTRUCTION PRACTICES AND LIFE CYCLE COSTS
4. WRITE A DESIGN GUIDELINE THAT WILL ESTABLISH ALTERNATIVES FOR ENGINEERS TO CONSIDER WHEN DESIGNING UDOT STRUCTURES.

3B. List the major tasks to accomplish the research objective(s):

1.
2. AS NOTED IN 3A.
3.
4.
5.

Estimated person-hours:

1	120
2	120
3	200
4	180

COMBINATION OF FACULTY AND GRADUATE STUDENT TIME

4. Estimate the cost of this research study including implementation effort (use person-hours from No. 3B): $ 25,000 ±

5. Indicate type of research and/or development project this is

Large: ☐ Research Project ☐ Development Project
Small: ☒ Research Evaluation ☐ Experimental Feature ☒ New Product Evaluation ☒ Tech Transfer Initiative
☐ Other: _____

(A small project is usually less than $20,000 and shorter than 6 months)

6. Outline the proposed schedule (when do you need this done, and how will we get there):

THE PROJECT WOULD REQUIRE APPROXIMATELY 10 MONTS OF CALENDAR TIME. IT WOULD BE BEST IF THE CONTRACT COULD START AT THE END OF AUG 07.

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7. What type of entity is best suited to perform this project (University, Consultant, UDOT Staff, Other Agency, Other)?

UNIVERSITY — (MY OPINION, YOR)

8A. What deliverables would you like to receive at the end of this project? (e.g. useable technical product, design method, technique, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tool, etc.)

A DESIGN GUIDELINE WOULD BE PRODUCED THAT WOULD INCLUDE OPTIONS THAT CONSIDERED VARIOUS LIFE CYCLE COSTS.

8B. Describe how this project will be implemented at UDOT.

DESIGN ENGINEERS WOULD BE ABLE TO HAVE DIRECT GUIDANCE TO SET AND MEET PROJECT CRITERIA.

8C. Describe how UDOT will benefit from the implementation of this project, and who the beneficiaries will be.

PROJECT MANAGERS AND DESIGNERS WILL HAVE AT THEIR DISPOSAL TAC REVIED AND APPROVED DESIGN GUIDELINES THE WILL LEAD TO THE IMPROVED PERFORCE OF CONCRETE STRUCTURES

9. Describe the expected risks and obstacles as well as the strategies to overcome them.

THERE IS LITTLE RISK ASSOCIATED WITH THIS PROPOSED PROJECT. THE PROJECT DOES REQUIRE A FULLY ENGAGED TAC. THIS PROJECT WILL ENGAGE A NUMBER OF INDIVIDUALS FROM DIFFERNT TECHNICAL BACKGROUNDS FROM WITHIN THE UDOT PROFESSIONAL STAFF

10A. List other people (UDOT and non-UDOT) who are willing to participate in the Technical Advisory Committee (TAC) for this study:

Name	Organization / Division / Region	Phone	Email
DAVID EIXENBERG	SUGGESTED BUT NOT DIRECTLY CONTACTED		
RICHARD MILLER			
JOHN BUTTERFIELD			
TIM BEAL			

10B. Identify other Utah, regional, or national agencies and other groups that may have an interest in supporting this study:

N. A. AT THIS LEVEL OF FUNDING